# A NEW VARIANT FOR THE SYNTHESIS OF 2R-THIO-6-PHENYLIMIDAZO[2,1-*b*]-1,3,4-THIADIAZOLES

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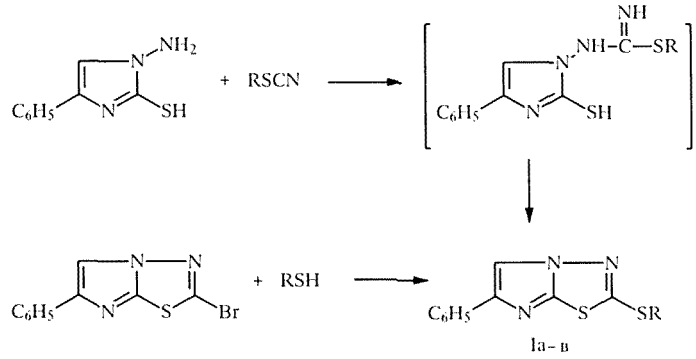
The known method for the construction of imidazo[2,1-*b*]-1,3,4-thiadiazoles is based on the cyclodehydration of 2-amino-1,3,4-thiadiazoles with α-bromoketones [1]. Their derivatives, the 2R-thio-6-phenylimidazo[2,1-*b*]-1,3,4-thiadiazoles (I), have been prepared by the same method [2, 3].

Compounds Ia and Ic may be synthesised by the interaction of equimolar amounts of a thiocyanate ester and 1-amino-2-mercapto-4-phenylimidazole [4, 2] in polyphosphoric acid. Maximum yields were obtained at 90-100°C for 4-6 h.




Ia–в

I a R = $CH_3$; b R = $CH_2C_6H_5$; c R = $C_6H_5$

The properties of compounds Ia and Ib agree well with literature data. We also obtained compound Ic by the reaction of thiophenol with 2-bromo-6-phenylimidazolo[2,1-*b*]-1,3,4-thiadiazole. The properties of compound Ic prepared by these two methods were identical.

**2-Methylthio-6-phenylimidazo[2,1-*b*]-1,3,4-thiadiazole (Ia, $C_{11}H_9N_3S$).** Yield 82.9%. m.p. 140°C (5:1 dioxane–water). Lit. data: m.p. 137-139°C [3].

**2-Benzylthio-6-phenylimidazo[2,1-*b*]-1,3,4-thiadiazole (Ib, $C_{17}H_{13}N_3S$).** Yield 95.9%, m.p. 144°C (9:1 dioxane–water). Lit data: m.p. 144°C [2].

**2-Phenylthio-6-phenylimidazo[2,1-*b*]-1,3,4-thiadiazole (Ic, $C_{16}H_{11}N_3S$).** Yield 87.2%, m.p. 157-158°C (9:1 dioxane–water).

## REFERENCES

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